



BC COMMUNITY
FOREST
ASSOCIATION



FUEL FOR THOUGHT

Fuel Treatment Explainer

Community forests in British Columbia (BC) are forestry operations managed by a local government, First Nation or community-held organization for the benefit of the community. At its core, community forestry is about local management of local values in local forests. Community forests conducted fuel treatments on over 9,000 hectares between 2014 and 2024, which offer ongoing learning opportunities. **As long-term, area-based tenures in proximity to communities, community forests are leaders in innovative forest and fire management, including fuel treatments.**

FUEL FOR THOUGHT

Fuel Treatment
Explainer

[Hyperlink](#)

What is a fuel treatment?

- A proactive wildfire prevention activity implemented in strategic locations.
- It involves removing and reducing forest fuels (live and dead vegetation) to minimize negative impacts from wildfire.

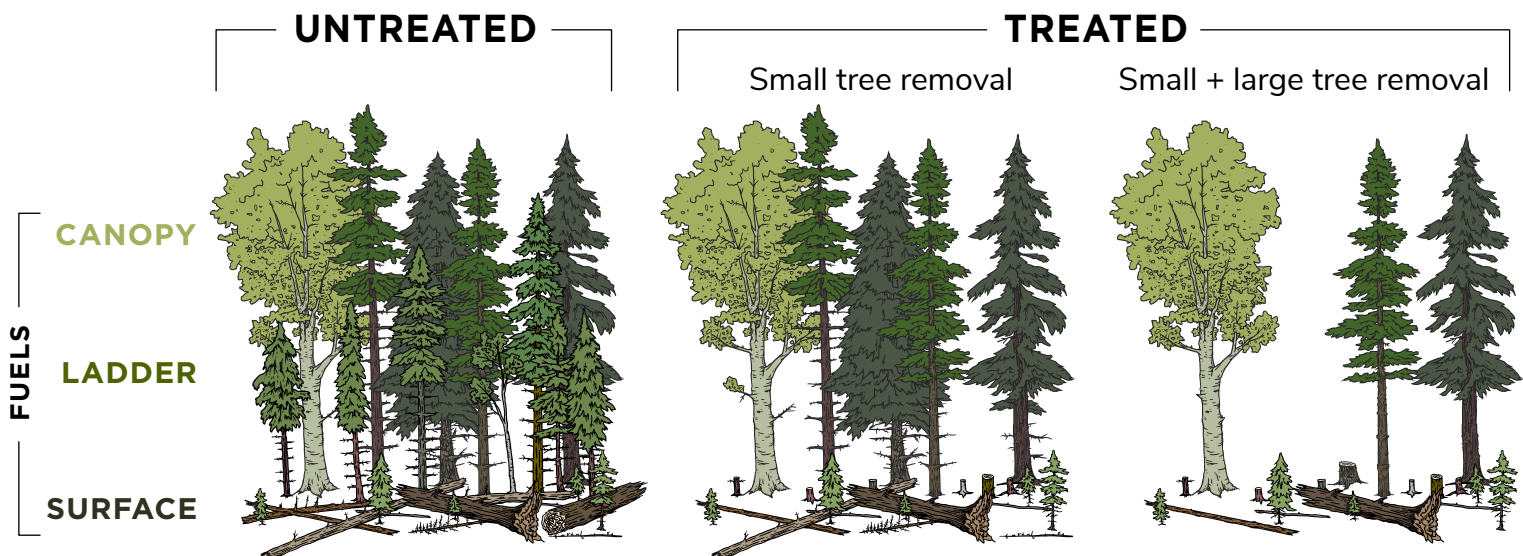
Why do we need fuel treatments?

- Most ecosystems in BC are adapted to periodic fires that maintain ecosystem health, but some modern fires are posing an increasing risk to communities and the things we value.
- Risk is increasing because of the long-term build-up of fuels due to fire suppression and certain forest management practices, climate change, and increased development in the wildland urban interface.
- The way a fire behaves (how hot it burns and how quickly it moves) is influenced by weather, topography, and fuels. Fuels are the only element we can proactively change to alter potential fire behaviour.
- Fuel treatments can help reduce fire intensity, restore the natural and cultural role of fire in ecosystems, and increase the success of safe wildfire suppression.

- Forestry operations have a [legal obligation](#) to reduce the threat of wildfire arising from residual fuel, but further fuel treatments are often needed to protect the diverse values within, and surrounding, community forests.

How is a fuel treatment conducted?

- First, undertake collaborative planning to identify community values and prioritize fuel treatment locations.
- Based on the ecosystems in these locations, decide whether canopy and/or ladder fuels will be removed by hand and/or using machines.
- Next, immediately reduce or redistribute any residual surface fuel – leftover trees, branches or shrubs – through hauling it away, piling and burning, chipping, or mulching it, or by creating biochar or charcoal.
- Then, further enhance treatments using prescribed or Indigenous-led cultural burning, practices which used to be more common across BC.





MORE SURFACE FUEL

LESS SURFACE FUEL

The choice to implement a fuel treatment, and how to do so, depends on what is most appropriate for the current ecosystem condition and desired objectives.

- Finally, implement a long-term maintenance plan to ensure fuel continues to be reduced.

Will fuel treatments **stop wildfires?**

- Fuel treatments are not intended to stop a wildfire.
- Instead, fuel treatments are designed to lower fire intensity, slow its spread, and reduce the likelihood of high severity fire.
- Treatments can help create defensible spaces, which provide safer evacuation routes and locations for firefighters to support wildfire suppression operations.

Is “fuel treatment” just another name for **commercial logging?**

- In some cases, fuel treatments are undertaken as part of normal forestry logging operations, in part to help offset the costs of the treatment, but the objectives of the operation are specifically focused on wildfire risk reduction.
- For example, fuel treatments usually remove smaller trees that are not commercially valuable or, in some ecosystems, retain larger, older, more fire-resistant trees.



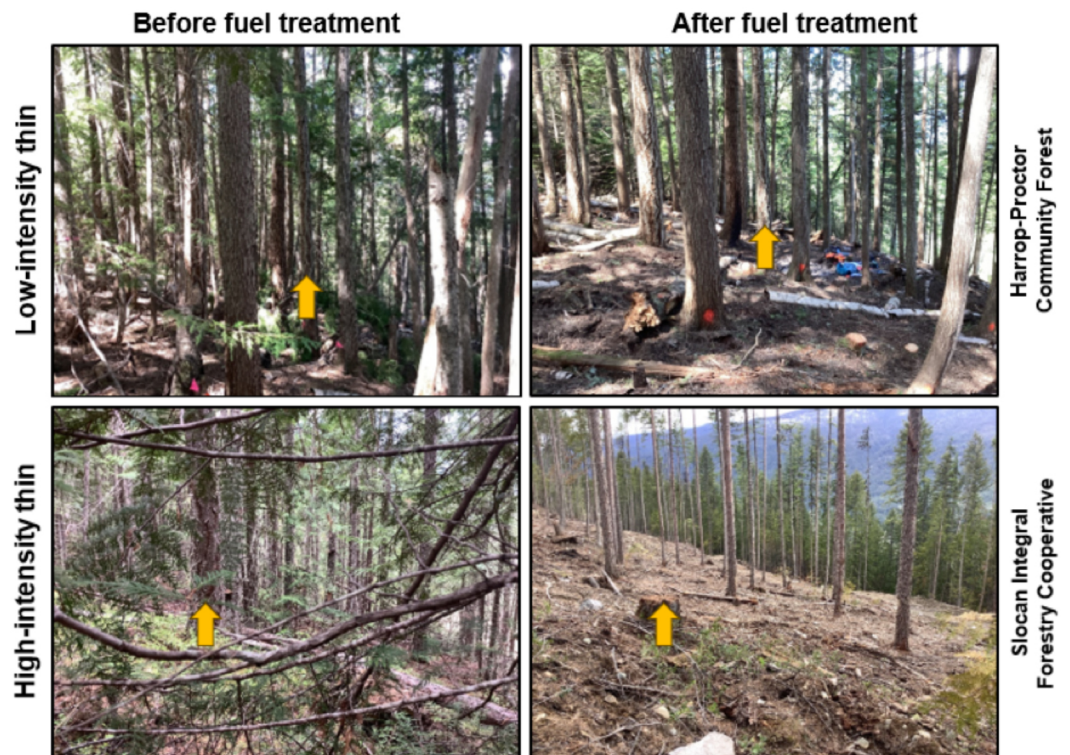
Smoke is a concern. Is burning necessary?

- Reintroducing fire in a planned and managed way can help restore ecosystems and revitalize Indigenous knowledge and practices.
- Fuel treatments with carefully [planned burns](#) generally minimize subsequent fire intensity more than those without burns.
- Burns are scheduled outside of wildfire season to minimize risks to human and environmental health and so communities can prepare for smoke in advance. Pile burns are subject to the [Open Burning Smoke Control Regulation](#).

- Fuel treatments that include burning can lower the severity and number of wildfire events that burn out of control, put communities at risk, and produce a lot of smoke.

COVER PHOTOS: Before (left) and after (right) a fuel treatment in an Interior Cedar Hemlock forest in the Slocan Interior Forest Cooperative (SIFCo). Photos by Kea Rutherford.

Examples of fuel treatments in the Interior Cedar Hemlock (ICH) biogeoclimatic zone in two community forests in BC. Left photos show the forest before the fuel treatment, right photos show the forest after the fuel treatment. The top row is an example of a lower-intensity thin where fewer trees are removed, whereas the bottom row is an example of a higher-intensity thin where more trees are removed. Arrows are anchor points showing the same tree. All photos by Kea Rutherford.



Can you still **manage for other values** while doing a fuel treatment?

- Yes! Forest managers are legally required to manage for many values, including biodiversity, cultural heritage, fish and riparian corridors, forage and associated plant communities, recreation, soils, visual quality, water quality, wildlife, and resource features.
- Many ecological and cultural values may be enhanced through implementation of fuel treatments that have been carefully and appropriately designed.

Fuel treatments sometimes look small. **How will they affect a big wildfire?**

- Fuel treatments may contribute to saving homes, critical infrastructure, and other priority values if they are strategically located based on predicted wildfire behaviour and values at risk.
- Small fuel treatments can connect to larger landscape-level fuel breaks.

- Fuel treatments are one of many approaches to encourage an all-of-society approach to reducing wildfire risks. Another important one is the seven disciplines of [FireSmart](#).

How do you know if your **treatments will work?**

- First-hand experiences in several BC community forests show the importance of fuel treatments for supporting suppression efforts and protecting community values from wildfire, such as in [Logan Lake](#).
- Ongoing research and experiences during wildfire suppression operations examine fuel treatments in the diverse ecosystems of BC to understand whether and how fuel treatments are successful and what can be done to improve them.
- Increased collaboration among community forests, government agencies, Indigenous communities, landowners and land managers, researchers, and the public can help prioritize, implement, and improve fuel treatments.

GLOSSARY

Adapted from the [BC Wildfire Service Glossary](#) and [Canadian Wildland Fire Glossary](#), with input from partners

Crown fire / A fire that spreads through the crown, or fuels in the air. Crown fires can start when a surface fire travels up available ladder fuels, such as tall shrubs or low branches.

Fuels / Any live or dead vegetation in the ground (e.g., roots), on the ground (e.g., fallen leaves, downed trees, shrubs), or in the air (e.g., trees) that can ignite and burn.

Fuel management / A reduction in fuels to help improve public safety, which may include treatments such as thinning the forest, spacing and pruning trees, and/or removal of fuel from the forest floor.

Hand treatment / A fuel treatment undertaken by hand, usually by trained sawyers to remove trees and/or shrubs and remove lower limbs from trees, which may also include hand piling and burning of residual fuels.

Indigenous-led cultural burning / A community-led practice of [Indigenous Fire Stewardship](#) that includes (but is not limited to) Indigenous peoples intentionally applying fire as a tool to enhance community protection and values throughout their traditional territories, guided by millennia of intergenerational knowledge, experiential practice, and their own systems of governance. The practice and its definition vary among Indigenous Nations.

Intensity / The rate at which energy is released during a fire; high intensity fires typically have bigger flames and move more quickly.

Mechanical treatment / A fuel treatment undertaken by machines brought into the forest.

Surface fire / A fire that burns in the surface fuel layer but is not sustained in the crowns of the trees.

Thinning / Decreasing the number of trees in a given area so that a fire is less likely to move from the ground to the canopy through ladder fuels and result in a more intense canopy fire.

Pile burning / The intentional burning of residual surface fuel that has been piled after a fuel treatment or forestry activity.

Prescribed burning / The knowledgeable and controlled application of fire to a specific area to accomplish planned objectives (usually reducing fuel hazards or ecosystem restoration) and minimize smoke impacts.

Severity / The amount of vegetation burned; high severity fire usually kills more trees and consumes more surface fuels (leaves, twigs, downed wood).

Wildland urban interface (WUI) / Any area where forest fuel is adjacent to (e.g., the edge of a community) or intermixed with (e.g., a forested urban park) buildings such as homes or businesses.



ADDITIONAL RESOURCES

FNESS Resources:



- [Core Program - Mitigation](#)
- [FireSmart and Fuels Community Resiliency Investment Program](#)

The best way to learn about **fuel treatments** is to speak to the **community forest manager** and see them in the forest!

BC Government Resources:

- [Fire and fuel management](#)
- [Tools for fuel management - Province of British Columbia](#)
- [Wildfire hazard assessment and abatement - Province of British Columbia](#)
- [Cultural and prescribed fire - Province of British Columbia](#)

Research on fuel treatment efficacy in Interior Cedar-Hemlock (ICH) forests in BC:

- [Short-term impacts of operational fuel treatments on modelled fire behaviour and effects in seasonally dry forests of British Columbia, Canada](#)

Useful public-facing explainers on fuel treatments in the US:

- [Fire FAQs - What is forest fuel, and what are fuel treatments?](#)
- [What do we know about forest treatments and Fire?](#)

Other summaries on fuel treatments, wildfires, and forest management in western North America:

- [Adapting western North American forests to climate change and wildfires: 10 common questions](#)
- [Counteracting wildfire misinformation](#)
- [A meta-analysis of thinning, prescribed fire, and wildfire effects on subsequent wildfire severity in conifer dominated forests of the Western US](#)

We gratefully acknowledge our colleagues and partners for your guidance and input



THE UNIVERSITY OF BRITISH COLUMBIA
Centre for Wildfire Coexistence



BC Wildfire
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Emergency Services Society
OF BRITISH COLUMBIA

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